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NOMENCLATURAL PROPOSAL PHYTOSOCIOLOGICAL NOMENCLATURE

Nomenclatural revision, proposals (40–44) and requests (8–10) regarding some syntaxa of the class *Phragmito-Magnocaricetea* Klika in Klika et Novák 1941

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Abstract

In the course of a comprehensive revision of the syntaxonomy and nomenclature of the class *Phragmito-Magnocaricetea* Klika in Klika et Novák 1941, it appeared necessary to resolve some nomenclatural issues in accordance with the International Code of Phytosociological Nomenclature. In this article, we present five proposals and three requests for binding decisions. We also introduce the name *Oenanthetalia aquaticae* Hejný ex Landucci et al. ord. nov., the lectotypes of the names *Phragmitetum australis* Savich 1926 nom. corr., *Typho-Scirpetum mucronati* Tallon 1950, and *Apion nodiflori* Segal in Westhoff et Den Held 1969, and the neotypes of the names *Oenantho aquaticae-Rorippetum amphibiae* Lohmeyer 1950 and *Scrophulario aquaticae-Apietum nodiflori* Maas ex Segal in Westhoff et Den Held 1969.

(40) *Phragmitetum australis* Savich 1926 nom. corr. et cons. propos.
Typus: Savich 1926a: 57 (holotypus)

(=) *Scirpo-Phragmitetum australis* W. Koch 1926
Typus: Koch 1926: 47 (holotypus).

(41) *Phragmition australis* W. Koch 1926 nom. corr. et cons. propos.
Typus: *Phragmitetum australis* Savich 1926 nom. corr. (typus cons. propos.)

(42) *Glycerio-Sparganietum neglecti* W. Koch 1926 nom. dub. propos.
Typus: Koch 1926: 52, tab. V, relevé 1 (lectotypus designated by Koska in Dengler et al. 2004: 371)

(43) *Glycerio-Sparganion* Braun-Blanquet et Sissingh in Boer 1942 nom. dub. propos.
Typus: *Glycerio-Sparganietum neglecti* W. Koch 1926 nom. dub. propos (Boer 1942: 240; holotypus)

(44) *Nasturtio-Glycerietalia* Pignatti 1953 nom. dub. propos.
Typus: *Glycerio-Sparganion* Braun-Blanquet et Sissingh in Boer 1942 nom. dub. propos. (Boer 1942: 240; holotypus)

Taxonomic reference: POWO (2025).

Abbreviations: CCCN = Committee for Change and Conservation of Names; ICPN = International Code of Phytosociological Nomenclature (Theurillat et al. 2021).

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Keywords

Binding decision, lectotypus, marsh vegetation, neotypus, nomen conservandum, nomenclature, *Phragmito-Magnocaricetea*, phytosociology, typus conservandum

Introduction

A formalized classification of the European marsh vegetation was published by Landucci et al. (2020). Although a preliminary nomenclature revision was conducted prior to that publication, its focus was on the methodological approach to classifying marsh vegetation rather than on nomenclature issues. Consequently, most syntaxon names in that publication were adopted from other sources, namely Mucina et al. (2016) for syntaxa of the principal ranks above the association and European national syntheses for associations (e.g., Rodwell 1995; Jarolímek et al. 2008; Šumberová et al. 2011; Borhidi et al. 2012; Schaminée et al. 2017; Dubyna et al. 2019).

One year later, the 4th edition of the International Code of Phytosociological Nomenclature (ICPN) was released, introducing several novelties and changes that are relevant for the nomenclature revision process (Theurillat et al. 2021). This publication inspired us to start a comprehensive revision of all syntaxa included in the class *Phragmito-Magnocaricetea* Klika in Klika et Novák 1941 as presented by Landucci et al. (2020). While this revision is still ongoing, the nomenclatural analysis revealed some issues regarding several important and widely used names.

The aims of this paper are (1) to propose the conservation of two names, namely *Phragmitetum australis* Savich 1926 nom. corr. and *Phragmition australis* W. Koch 1926 nom. corr., with a conserved type, (2) to propose the rejection of three names, namely *Glycerio-Sparganietum neglecti* W. Koch 1926, *Glycerio-Sparganion* Braun-Blanquet et Sissingh in Boer 1942 and *Nasturtio-Glycerietalia* Pignatti 1953 as nomina dubia; and (3) to request a binding decision on the name-giving taxa of the names *Phragmito-Magnocaricetea*, *Typho-Scirpetum mucronati,* and *Typho-Schoenoplectetum tabernaemontani*.

Proposals

Proposal (40) to conserve the name *Phragmitetum australis* Savich 1926 nom. corr. against *Scirpo-Phragmitetum* W. Koch 1926

The names *Scirpo-Phragmitetum* W. Koch 1926 [Koch 1926: 45–51] and *Phragmitetum communis* Savich 1926 [Savich 1926a: 57] are syntaxonomic synonyms, both published in the same year: Koch's association was published in March 1926, while Savich's appears to have been released in the latter half of the year. Savich authored two works in 1926 – Savich (1926a) and Savich (1926b) – both of which included the association *Phragmitetum communis*. Although the precise publication dates remain uncertain, records from the Natural Sciences Library of the Russian Academy of Sciences in St. Petersburg indicate that the first volume was received by the State Central Book Chamber no later than July 1926. The foreword of the second volume explicitly states the date of 1 December 1926. According to Principle IV and Article 22 of the ICPN, the name *Scirpo-Phragmitetum* W. Koch 1926 has priority over *Phragmitetum communis* Savich 1926. However, the name *Scirpo-Phragmitetum* W. Koch 1926 presents several issues.

Despite reporting a holotype dominated by *Phragmites australis*, Koch (1926: 45, 49) explicitly defined this as a conceptually broad association that includes multiple communities, each dominated by one of the following species: *Phragmites australis* [= *P. communis*], *Typha angustifolia*, *T. latifolia*, *Schoenoplectus lacustris* [= *Scirpus lacustris*], and *Glyceria maxima* [= *G. aquatica*]. However, most contemporary authors reject the concept of such a broad association, arguing that stands dominated by a single tall emergent species are typically sharply delineated and visually distinct from a distance. Therefore, they prefer using narrow associations dominated by a single species. Tomaszewicz (1973), who revised the *Scirpo-Phragmitetum* in Poland, was one of the first authors to suggest that this complex association reported by many Polish authors should be split into several associations, namely "*Phragmitetum* (Gams 1927) Schmale 1939", "*Scirpetum lacustris* (Allorge 1922) Chouard 1924", "*Sparganietum erecti* Roll 1922", "*Typhetum latifoliae* Soó 1927" and "*Eleocharitetum palustris* Schennikow 1919". Other authors followed the same idea, using single-species dominated communities named differently than *Scirpo-Phragmitetum* W. Koch 1926. For example, to designate a plant community dominated by *Phragmites australis*, Rodwell (1995) and Stančić (2010) used the name "*Phragmitetum australis* (Gams 1927) Schmale 1939", while Oťaheľová et al. (2001) and Tzonev et al. (2009) used "*Phragmitetum vulgaris* Soó 1927"; and Ferrez et al. (2011), Šumberová et al. (2011), Dubyna et al. (2019) and Landucci et al. (2020) used "*Phragmitetum communis* Savich 1926".

A simple search on Google Scholar reveals that the names *Phragmitetum australis* and *Phragmitetum communis*, along with their underlying concept, are cited more frequently than *Scirpo-Phragmitetum*. Moreover, in the most recent publications, *Scirpo-Phragmitetum* is mainly cited as a pro parte synonym for other names. The most cited name is "*Phragmitetum communis* (Gams 1927) Schmale 1939", although this is a later synonym of *Phragmitetum australis* Savich 1926 nom. corr. Since Šumberová et al. (2011) reintroduced this forgotten name in the book "Vegetation of the Czech Republic", the name *Phragmitetum australis* Savich 1926 has gained prominence and is the most widely used name in recent publications (see Table 1).

Table 1. Number of results retrieved from Google Scholar on 8th Sep 2025 when searching for *Scirpo-Phragmitetum* s.l. and *Phragmitetum australis* s.l. in all their name variations. Searches were conducted for two periods (1926–2010 and 2011–2025), excluding citations.

Search in Google Scholar (excluded citation)	No. of results (1926–2010)	No. of results (2011–2025)	Total No. of results
***Scirpo-Phragmitetum* s.l.**	**663**	**449**	**1112**
"*Scirpo-Phragmitetum*"	516	313	829
"*Schoenoplecto-Phragmitetum*"	23	11	34
"*Scirpo-Phragmitetum* W. Koch 1926"	78	83	161
"*Scirpo-Phragmitetum* Koch 1926"	40	35	75
"*Scirpo lacustris-Phragmitetum australis* W. Koch 1926"	2	1	3
"*Scirpo lacustris-Phragmitetum australis* Koch 1926"	3	2	5
"*Schoenoplecto-Phragmitetum* W. Koch 1926"	1	1	2
"*Schoenoplecto lacustris-Phragmitetum australis* Koch 1926"	0	3	3
***Phragmitetum australis* s.l.**	**1417**	**2202**	**3619**
"*Phragmitetum australis*"	545	1110	1655
"*Phragmitetum australis* (Gams 1927) Schmale 1939"	69	98	167
"*Phragmitetum australis* Savič 1926"	1	128	129
"*Phragmitetum australis* Schmale 1939"	18	31	49
"*Phragmitetum australis* Savic 1926"	0	15	15
"*Phragmitetum australis* Savich 1926"	0	16	16
"*Phragmitetum communis*"	508	529	1037
"*Phragmitetum communis* (Gams 1927) Schmale 1939"	78	83	161
"*Phragmitetum communis* Schmale 1939"	14	13	27
"*Phragmitetum communis* Soó 1927"	23	15	38
"*Phragmitetum communis* von Soó 1927"	0	2	2
"*Phragmitetum communis* Savič 1926"	0	47	47
"*Phragmitetum communis* Savic 1926"	0	1	1
"*Phragmitetum communis* Savich 1926"	10	10	20
"*Phragmitetum vulgaris*"	90	70	160
"*Phragmitetum vulgaris* Soó 1927"	30	24	54
"*Phragmitetum vulgaris* von Soó 1927"	31	10	41

Some authors (e.g., Šumberová et al. 2011, p. 405; Delcoigne and Thébaud 2018, p. 90) have suggested that the *Scirpo-Phragmitetum* W. Koch 1926 is a nomen ambiguum (Art. 36), which may be true when considering the accompanying description and not just the holotype (Koch 1926: 47). While *Phragmites australis* dominates the holotype (Braun-Blanquet cover 3–5), the name was used by Koch and by later authors in a broad sense to include communities dominated by species other than *Phragmites australis* that sometimes do not even occur in the holotype of Koch 1926. For example, Nedelcu (1967) includes in the association *Scirpo-Phragmitetum* relevés dominated by *Typha laxmannii* that do not include *Phragmites australis*. In the database WetVegEurope (Landucci et al. 2015), the name *Scirpo-Phragmitetum* appears in the original classification field of relevés dominated by *Phragmites australis*, *Glyceria maxima*, *G. fluitans*, *Typha angustifolia*, *T. latifolia*, *Equisetum fluviatile*, *Sparganium erectum*, *S. neglectum*, and *Acorus calamus*, mostly dated between 1940 and 1970. All these relevés were subsequently reclassified and renamed by several authors, national database custodians, or by Landucci et al. (2020).

The *Scirpo-Phragmitetum* W. Koch 1926 may also be considered a nomen dubium (Art. 37) (e.g., Delcoigne and Thébaud 2018, p. 93) since Koch's entire diagnosis and the wide ecological and geographical area of the holotype, extending over approximately 0.1 km^2, from Schmerikon to the mouth of the river Anbach (Koch 1926: 48, 50), both indicate that the association is in fact a vegetation complex that comprises several distinct communities dominated by different species and that the holotype is not a single relevé of a homogeneous area (Figure 1). Therefore, it is impossible to unequivocally assign this name to one of the associations recognized today (Art. 37; Tomaszewicz 1973).

Although the status of *Scirpo-Phragmitetum* W. Koch 1926 as an ambiguous or dubious name is debatable, it is a fact that this name has been conceived and used to refer to a very broad, multi-species dominated association, in contrast to *Phragmitetum australis* Savich 1926, which represents a monospecific dominated association. Some authors, however, have used the name *Scirpo-Phragmitetum* W. Koch 1926 exclusively for *Phragmites australis*-dominated stands, based on its holotype and nomenclatural priority (Principle IV, Article 22 of the ICPN) (e.g., Dring et al. 2002; Sanda et al. 2008). As a result, the name currently lacks a single, unequivocal application (Figure 2a, b). Therefore, to guarantee the nomenclature stability and to clarify the concepts behind the two names, we propose, according to Article 52, to conserve the name *Phragmitetum australis* Savich 1926 nom. corr. [≡ *Phragmitetum communis* Savich 1926 nom. inept.] against the name *Scirpo-Phragmitetum* W. Koch 1926. This solution prevents

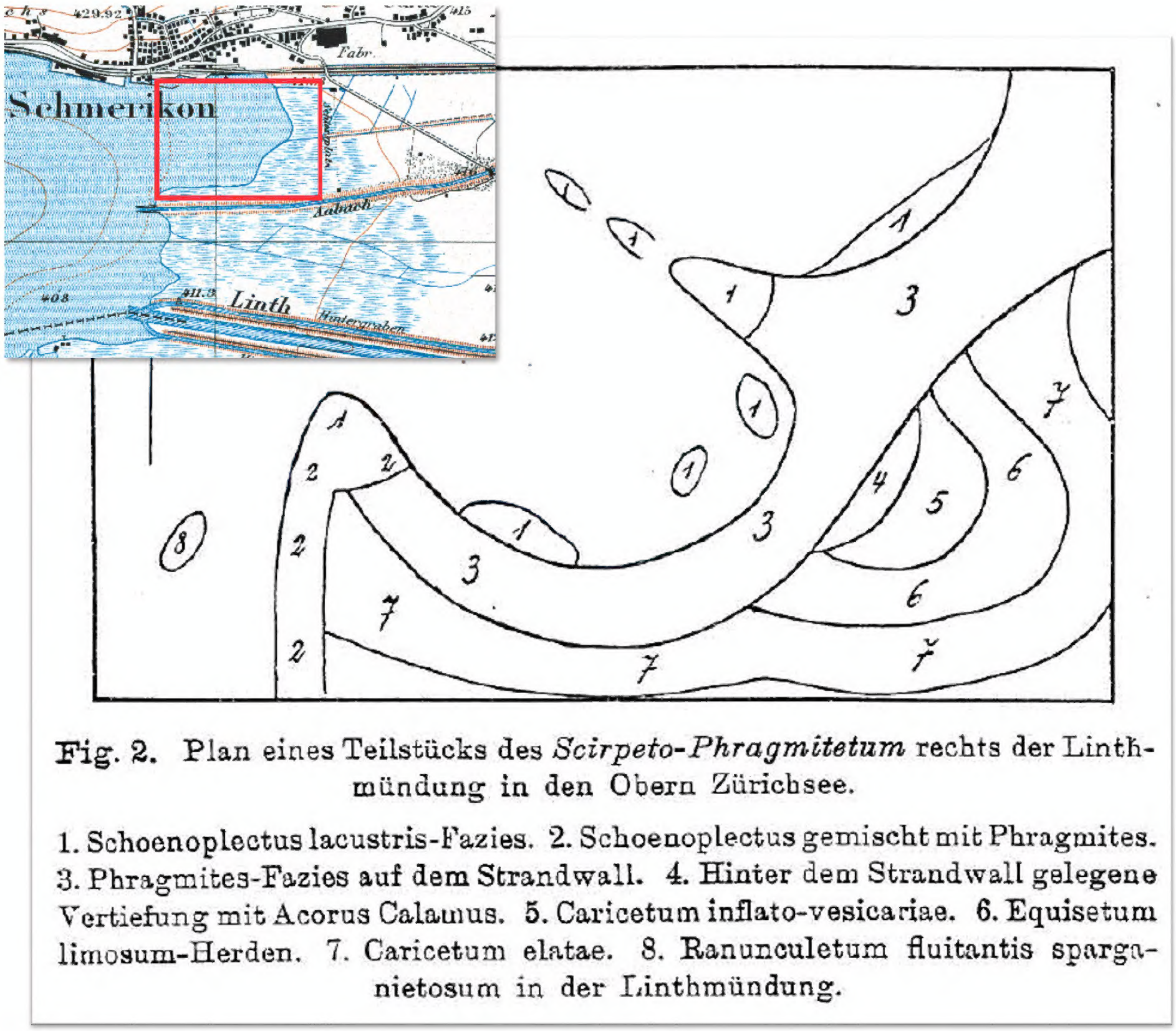

Fig. 2. Plan eines Teilstücks des *Scirpeto-Phragmitetum* rechts der Linthmündung in den Obern Zürichsee.

1. Schoenoplectus lacustris-Fazies. 2. Schoenoplectus gemischt mit Phragmites. 3. Phragmites-Fazies auf dem Strandwall. 4. Hinter dem Strandwall gelegene Vertiefung mit Acorus Calamus. 5. Caricetum inflato-vesicariae. 6. Equisetum limosum-Herden. 7. Caricetum elatae. 8. Ranunculetum fluitantis sparganietosum in der Linthmündung.

Figure 1. Illustration of the holotype provided on p. 47 of Koch's work. Koch's map corresponds to a portion (German: Teilstück) of the *Scirpo-Phragmitetum* to the right of the mouth of Linth River, i.e., between Schmerikon and the mouth of the Aabach River. The figure was taken from Koch (1926: 48) and localized on the 1923 Swiss topographic map of the area (see inset) (https://map.geo.admin.ch/#/map?lang=fr&center=2713861,1231594.35&z=7&topic=ech&layers=ch.swisstopo.zeitreihen@year=1923;ch.bfs.gebaeude_wohnungs_register,f;ch.bav.haltestellen-oev,f;ch.swisstopo.swisstlm3d-wanderwege,f;ch.vbs.schiessanzeigen,f;ch.astra.w).

the use of *Scirpo-Phragmitetum* W. Koch 1926 for monodominant associations. Currently, this is a minority view among researchers (see Table 1).

Proposal (41) to conserve the name *Phragmition australis* W. Koch 1926 nom. corr. with a conserved type

In the same publication, Koch (1926) also described the alliance *Phragmition communis* W. Koch 1926 [Koch 1926: 45] and the order *Phragmitetalia* W. Koch 1926. The *Phragmition communis* only includes two associations: *Scirpo-Phragmitetum* and *Glycerio-Sparganietum neglecti*. The association *Glycerio-Sparganietum neglecti* W. Koch 1926 was designated as the holotype of the alliance *Glycerio-Sparganion* Braun-Blanquet et Sissingh in Boer 1942 (Boer 1942: 241). Therefore, the *Scirpo-Phragmitetum* W. Koch 1926 is the only available association to be chosen as the lectotypus of the *Phragmition communis* according to Recommendation 19A. Molina (1996: 30) lectotypified the *Phragmition* with the *Scirpo-Phragmitetum* W. Koch 1926. However, if *Scirpo-Phragmitetum* were to be considered a nomen dubium in the future, then the name *Phragmition communis* would be a nomen dubium with an important domino effect, since the alliance *Phragmition communis* is the lectotype (Art. 20) of the name *Phragmitetalia*, and the latter order is the holotype of the *Phragmito-Magnocaricetea*. Consequently, in accordance with Art. 38, the order and class names would also be nomina dubia. Therefore, to foster nomenclature stability, according to Article 53, we propose conserving the

alliance name *Phragmition australis* W. Koch 1926 nom. corr. [≡ *Phragmition communis* W. Koch 1926 nom. inept.] with the association *Phragmitetum australis* Savich 1926 nom. corr. as typus conservandum.

Proposals (42–44) to reject the names *Glycerio-Sparganietum neglecti* W. Koch 1926, *Glycerio-Sparganion* Braun-Blanquet et Sissingh in Boer 1942, and *Nasturtio-Glycerietalia* Pignatti 1953 as nomina dubia

The association *Glycerio-Sparganietum neglecti* was originally described by Koch as a part of the alliance *Phragmition communis* and the order *Phragmitetalia* (Koch 1926: 18). Like *Scirpo-Phragmitetum* W. Koch 1926, the name *Glycerio-Sparganietum neglecti* W. Koch 1926 is problematic. Koch intended this association to encompass a broad unit composed of communities dominated by several species, such as *Sparganium erectum* subsp. *neglectum* [= *S. neglectum*] (occasionally merged with *S. emersum* by some authors), *Glyceria notata* [= *G. plicata*], *G. fluitans*, *Catabrosa aquatica*, *Berula erecta* [= *Sium erectum*], *Nasturtium officinale*, and *Veronica beccabunga* (Koch 1926: 52–54, table V). In subsequent years, other authors (e.g., Libbert 1932; Langendonck 1935; Tüxen 1937) also used this name in a broad sense.

Koch (1926: 52–54) specified that this association is often a one-layered plant community composed of tall emergent species, with several variants determined by differences in water level and species composition. Occasionally, the plant community can have two layers where *Nasturtium officinale*, *Veronica beccabunga*, or other small hydrophytes form an aquatic lower layer. In one "impoverished variant", *Nasturtium officinale* and *Veronica beccabunga* are particularly abundant (Koch 1926: 54).

Subsequently, Braun-Blanquet and Sissingh in Boer (1942: 240) separated the *Glycerio-Sparganietum* from the *Phragmition* and created the new alliance *Glycerio-Sparganion* Braun-Blanquet et Sissingh in Boer 1942. They recognized two associations within this alliance: *Glycerio-Sparganietum neglecti* and *Helosciadietum nodiflori* (a nomen nudum in Boer 1942), specifying that the *Glycerio-Sparganietum neglecti*, with the relevés of Koch (1926), Libbert (1932), Langendonck (1935), Tüxen (1937), and Boer (1942), must be considered the type of the alliance.

Koska in Dengler et al. (2004: 371) selected relevé 1 in table V on page 52 in Koch (1926) as the lectotype of the *Glycerio-Sparganietum neglecti* W. Koch 1926. This selection aligns with the concept of a broad association because no species is clearly dominant over the others. However, this choice raises several issues. The relevé does not represent the most common appearance of the association according to Koch's description (a single layer dominated by tall emergent species). Instead, it represents one of the variants of *Glycerio-Sparganietum neglecti*, a plant community co-dominated by the short emergent species *Nasturtium officinale* and the tall emergent species *Sparganium erectum* subsp. *neglectum*. Koch explicitly calls this relevé "Epilobium-reiche Variante".

The co-dominance of *Sparganium erectum* subsp. *neglectum* and *Nasturtium officinale* in the lectotype makes *Glycerio-Sparganietum neglecti* the first validly published name for both communities dominated by either *Sparganium erectum* subsp. *neglectum* or by *Nasturtium officinale*. However, as mentioned above for *Scirpo-Phragmitetum*, most authors today reject the concept of a broad association and recognize communities dominated by *Nasturtium officinale* as an independent association (Figure 2f) named by several authors as *Nasturtietum officinalis*, which was first validly published by Gilli (1971) (e.g., Gilli 1971; Julve 1993; Berg et al. 2004; Angiolini et al. 2005; Chifu et al. 2006; Ceschin and Salerno 2008; Jarolímek et al. 2008; Lastrucci et al. 2010; Ferrez et al. 2011; Šumberová et al. 2011; Borhidi et al. 2012; Tardella and Di Agostino 2020). Instead, the use of the name *Glycerio-Sparganietum neglecti* W. Koch 1926 is restricted to communities dominated by *Sparganium erectum* s.l. (including *S. erectum* subsp. *erectum*, *S. erectum* subsp. *microcarpum*, *S. erectum* subsp. *neglectum*, *S. erectum* subsp. *oocarpum*) or only *S. erectum* subsp. *neglectum* (e.g., Horvat et al. 1974; Pirone et al. 1997; Canullo et al. 1988; Berg et al. 2004; Šumberová et al. 2011; Lastrucci et al. 2014; Landucci et al. 2020; Zelnik et al. 2021). This makes *Glycerio-Sparganietum neglecti* a *nomen dubium* (Art. 37) because it is impossible to assign the name unequivocally to a single association distinguished today.

In the light of Koch's description and the lectotype selected by Koska, the name *Glycerio-Sparganietum neglecti* W. Koch 1926 could also be considered a *nomen ambiguum* (Art. 36), as it has often been used in recent decades for communities strictly dominated by *Sparganium erectum* subsp. *neglectum*, rather than for communities dominated by multiple species, thus excluding its type (e.g., Horvat et al. 1974; Berg et al. 2004; Šumberová et al. 2011; Landucci et al. 2013; Lastrucci et al. 2014; Fanelli et al. 2015; Landucci et al. 2020; Castello et al. 2021; Zelnik et al. 2021; Vukotić et al. 2022).

In any case, if *Glycerio-Sparganietum neglecti* W. Koch 1926 is rejected as a *nomen dubium*, the alliance *Glycerio-Sparganion* Braun-Blanquet et Sissingh in Boer 1942 and the order *Nasturtio-Glycerietalia* Pignatti 1953 will also become *nomina dubia* (Art. 38). Unlike the case of *Scirpo-Phragmitetum* and its higher syntaxa, we do not find any reason to preserve the names *Glycerio-Sparganietum neglecti* W. Koch 1926, *Glycerio-Sparganion* Braun-Blanquet et Sissingh in Boer 1942, and *Nasturtio-Glycerietalia* Pignatti 1953. On the contrary, accepting these names as *nomina dubia* would help to resolve a controversial syntaxonomic situation.

In fact, what should be included in the alliance *Glycerio-Sparganion* is not as clear as it might seem. Communities dominated by short emergent species such as *Nasturtium officinale*, *Veronica beccabunga*, *Berula erecta*, *Helosciadium nodiflorum*, or floating forms of *Glyceria fluitans*, *G. notata*, or *Catabrosa aquatica* are

often unequivocally classified in *Glycerio-Sparganion* due to their frequent co-occurrence and connection with running water. In contrast, communities dominated by *Sparganium erectum* s.l. are often placed in *Phragmition australis* due to their structure dominated by tall emergent species, their occurrence in gently running or standing waters, and their lack of short emergent species characteristic of the alliance *Glycerio-Sparganion* (e.g., Grabherr and Mucina 1993; Šumberová et al. 2011; Fanelli et al. 2015; Landucci et al. 2020; Castello et al. 2021; Zelnik et al. 2021; Vukotić et al. 2022).

Some authors seem to have assigned plant communities dominated by *Sparganium erectum* s.l. to *Glycerio-Sparganion* merely to fulfill the existence of this alliance rather than for a substantive reason. For instance, the plant community occurs in gently running water, but apart from *Sparganium erectum* s.l. there are no other diagnostic species of this alliance (Molina 1996; Lastrucci et al. 2010). In other cases, the species composition is consistent with a plant community of the *Glycerio-Sparganion*, but the stands occur in standing water bodies (Lastrucci et al. 2023).

Some authors (e.g., Géhu and Géhu-Franck 1987; Borhidi et al. 2012; Biondi et al. 2014) prefer to recognize two alliances within the order *Nasturtio-Glycerietalia*: one for tall emergent species, named *Glycerio-Sparganion* Braun-Blanquet et Sissingh in Boer 1942, and one for short emergent species, named *Apion nodiflori* Segal in Westhoff et Den Held 1969, *Nasturtion officinalis* Géhu et Géhu-Franck 1987, or *Nasturtio-Veronicion beccabungae* Borhidi 2001.

The syntaxonomy of the order *Nasturtio-Glycerietalia* and its lower syntaxa has always been somewhat controversial due to its partial conceptual overlap with other orders such as *Phragmitetalia*, *Magnocaricetalia*, and *Oenanthetalia aquaticae* (Figure 2c, d, e, f). According to Mucina et al. (2016), the order *Nasturtio-Glycerietalia* is defined as "Herbland and sedge-beds of well-oxygenated freshwater flowing streams of the temperate and Mediterranean regions of Europe and Madeira", including the alliances *Glycerio-Sparganion* Braun-Blanquet et Sissingh in Boer 1942, *Phalaridion arundinaceae* Kopecký 1961, *Caricion broterianae* (Rivas-Martínez et al. 1986) J. A. Molina 1996, and *Deschampsion argenteae* Capelo et al. 2000.

Nevertheless, the alliance *Phalaridion arundinaceae* is not unanimously accepted as an independent alliance due to the lack of diagnostic species. Therefore, its associations are often placed in *Phragmition australis* (Landucci et al. 2020). The *Caricion broterianae* was originally included in *Magnocaricetalia* due to its species composition and physiognomy (Molina 1996; Costa et al. 2012). It was moved to *Nasturtio-Glycerietalia* by Mucina et al. (2016) solely because it occurs along water streams. The *Deschampsion argenteae* was also originally classified within *Magnocaricetalia* (Costa et al. 2012) due to its general physiognomy, even though its species composition does not seem to pertain to either *Magnocaricetalia* or *Nasturtio-Glycerietalia*. In fact, there are no *Phragmito-Magnocaricetea* species at all in this alliance (Landucci et al. 2020). The only alliance that unequivocally belongs to *Nasturtio-Glycerietalia* is the *Glycerio-Sparganion*. This raises the question of whether it is necessary to distinguish the order *Nasturtio-Glycerietalia* if the alliance and the order are conceptually identical.

If the *Glycerio-Sparganietum neglecti* W. Koch 1926, the *Glycerio-Sparganion* Braun-Blanquet et Sissingh in Boer 1942, and the *Nasturtio-Glycerietalia* Pignatti 1953 were rejected as *nomina dubia*, the communities dominated by *Sparganium erectum* s.l. (following the taxonomic concept of Píšová and Fér 2020) could be named *Sparganietum erecti* Philippi 1973 and assigned to *Phragmition australis*. An alliance conceptually similar to *Glycerio-Sparganion* is *Apion nodiflori* Segal in Westhoff et Den Held 1969, which includes vegetation dominated exclusively by short emergent species (such as *Berula erecta*, *Helosciadium nodiflorum*, *Nasturtium officinale*, *Veronica beccabunga*) or floating forms of a few tall emergent species (such as *Glyceria fluitans*, *G. notata*, and *Catabrosa aquatica*) mainly developing in water streams and channels. This alliance could be classified into the order *Oenanthetalia aquaticae*, with which it shares the structure, part of the characteristic species, and ecology. Mechanical disturbances related to water level fluctuations are typical of all syntaxa of the *Oenanthetalia* order; however, disturbances by flowing water would be specific to *Apion nodiflori*.

To avoid misinterpretations and future nomenclature problems, two actions are needed in this regard.

a) Validation of the name *Oenanthetalia aquaticae* Hejný ex Landucci, Chytrý, Iemelianova, Šumberová et Theurillat ord. nov.

The name *Oenanthetalia aquaticae* Hejný ex Balátová-Tuláčková, Mucina, Ellmauer et S. Wallnöfer 1993, listed as an accepted name in the EuroVegChecklist (Mucina et al. 2016), is in fact invalid due to the absence of a sufficient diagnosis (Art. 2b). In Balátová-Tuláčková et al. (1993), the order *Oenanthetalia aquaticae* Hejný in Kopecký et Hejný (1965) includes only one alliance, the *Oenanthion aquaticae* Hejný ex Neuhäusl 1959, which is invalid under Article 3f because the only valid element in the original diagnosis, the *Calletum palustris* Vanden Berghen 1952, does not include *Oenanthe aquatica* (L.) Poir.

Furthermore, the name *Oenanthion aquaticae* Hejný ex Neuhäusl 1959 cannot be considered incidentally validated in Balátová-Tuláčková et al. (1993). Although two among the four associations included in the alliance are validly published (*Oenantho aquaticae-Rorippetum amphibiae* Lohmeyer 1950 and *Scirpetum radicantis* Hejný in Hejný et Husák 1978), no type was designated (Arts. 3o and 5).

Additionally, the alliance name *Eleocharito palustris-Sagittarion sagittifoliae* Passarge 1964, also reported as accepted by Mucina et al. (2016), is invalid (Art. 2b) because the original diagnosis in Passarge (1964) includes only two "Assoziations-Gruppe", a rank not governed by the ICPN (Principle II, Article 3c).

Nevertheless, a previously validly published name exists that corresponds to the same alliance: *Oenanthion aquaticae* Hejný ex Vicherek 1962 [Vicherek 1962: 13].

The original diagnosis of this alliance includes a single validly published association, the *Oenantho aquaticae-Rorippetum amphibiae* Lohmeyer 1950 (Lohmeyer 1950: 20), which also serves as the holotype. We hereby designate the neotypus of this association (see nomenclature summary).

Accordingly, we formally validate the name *Oenanthetalia aquaticae* Hejný ex Landucci et al. ord. nov., with *Oenanthion aquaticae* Hejný ex Vicherek 1962 as its holotypus hoc loco. The diagnostic species (Art. 8 Note 1) are *Oenanthe aquatica* (L.) Poir. and *Rorippa amphibia* (L.) Besser.

b) Typification of the name *Apion nodiflori* Segal in Westhoff et Den Held 1969

We designate the association *Scrophulario aquaticae-Apietum nodiflori* Maas ex Segal in Westhoff et Den Held 1969 [Westhoff and Den Held 1969: 132] (= *Scrophularieto aquaticae-Helosciadietum nodiflori* Maas 1959 nom. prov.) as lectotypus hoc loco of *Apion nodiflori* Segal in Westhoff et Den Held 1969 [Westhoff and Den Held 1969: 131]. The name used by Maas (1959) is provisional according to Article 3b because Maas mentioned the name *Scrophulario aquaticae-Helosciadietum nodiflori* on page 64, referring to column 14 of table II, for an association in calcareous waters different from the '*Callitricheto-Helosciadietum nodiflori*' of calcareous-poor waters, but without explicitly accepting both names. Indeed, Maas considered that further research was needed to see if such a distinction was necessary and if it was preferable to Oberdorfer's classification. Moreover, in Maas' table II, the two associations are not distinguished and are combined under the name '*Helosciadietum*,' as in Oberdorfer's classification (1957), which Maas followed, as he explicitly stated in both the English and French summaries on pages 148 and 157. However, Segal in Westhoff et Den Held (1969: 131) incidentally validated this name.

We also perform the correction and mutation of the names *Scrophulario aquaticae-Apietum nodiflori* Maas ex Westhoff et Den Held 1969 and *Apion nodiflori* Segal in Westhoff et Den Held 1969 according to Articles 44 and 45. They become *Scrophulario auriculatae-Helosciadietum nodiflori* Maas ex Westhoff et Den Held 1969 nom. corr. et nom. mut. nov. and *Helosciadion nodiflori* Segal in Westhoff et Den Held 1969 nom. mut. nov., respectively. The name *Scrophularia aquatica* auct. is currently treated as a synonym for *S. oblongifolia* Loisel (POWO 2025). However, it has frequently been misapplied to *S. auriculata* L. nom. cons., as documented in Euro+Med (2006+). In the original description of *Scrophulario aquaticae-Apietum nodiflori*, Westhoff and Den Held (1969) explicitly equated *S. aquatica* auct. with *S. balbisii* Hornem., which is now recognized as a synonym of *S. auriculata*. Therefore, the correction to *S. auriculata* L. nom. cons. is justified. The species *Apium nodiflorum* (L.) Lag. is now included in the genus *Helosciadium* W. D. J. Koch and is currently accepted as *H. nodiflorum* (L.) W. D. J. Koch in most floras and checklists, e.g. Euro+Med (2006+) and POWO (2025).

We also designate a neotypus for the name *Scrophulario auriculatae-Helosciadietum nodiflori* Maas ex Westhoff et Den Held 1969 nom. corr. et mut. nov. (see nomenclature summary).

Requests for a binding decision

Request (8) for a binding decision on the name-giving taxon of the name *Phragmito-Magnocaricetea* Klika in Klika et Novák 1941

The name "*Phragmito-Magnocaricetea*" Klika in Klika et Novák 1941 [Klika and Novák 1941: 58] is well-established for the class that includes freshwater and brackish marsh vegetation types of Eurasia (Mucina et al. 2016). However, the name looks so incomplete that several authors already tried to apply an invalid change (Art. 3q), completing it to *Phragmito australis-Magnocaricetea elatae* (e.g., Trinajstić 2008; de Foucault and Catteau 2012; Biondi et al. 2014; Jasprica et al. 2015; Spampinato et al. 2019). The 4th edition of the ICPN invites authors to submit proposals to the CCCN for the selection of name-giving taxa for names published before 1979, when it is unclear from the original diagnosis which species or infraspecific taxon is the name-giving taxon (Art. 40b).

In Klika and Novák (1941), the species *Phragmites australis* (Cav.) Steud. (= *P. communis* Trin.) is clearly the only species of the genus *Phragmites* present in the original diagnosis of the class. However, several species of the genus *Carex* occur there without an indication of any specific name-giving taxon. The order *Phragmitetalia* W. Koch 1926 is the holotype of the name *Phragmito-Magnocaricetea* because it is the only element mentioned in the original diagnosis of the class (Art. 5). In Koch (1926), the order contained two alliances: "*Phragmition communis*" and "*Magnocaricion elatae*". Therefore, since the class name is formed by the union of the two alliance names *Phragmition communis* [= *Phragmition australis*] and *Magnocaricion elatae*, we request a binding decision to complete the name "*Phragmito-Magnocaricetea*" with *Carex elata* All. 1785, namely *Phragmito australis-Magnocaricetea elatae* Klika in Klika et Novák 1941.

Request (9) for a binding decision on the name-giving taxon of the name *Typho-Scirpetum mucronati* Tallon 1950 (alternative form: *Typho-Schoenoplectielletum mucronatae* Tallon 1950 nom. mut. nov.)

Tallon (1950) described the *Typho-Scirpetum mucronati* as an association dominated by *Scirpus mucronatus* and characterised by several species of the genus *Typha* (*T. angustifolia* L., *T. latifolia* L., and *T. laxmannii* Lepech.). He did not specify the type in his publication. Here, we

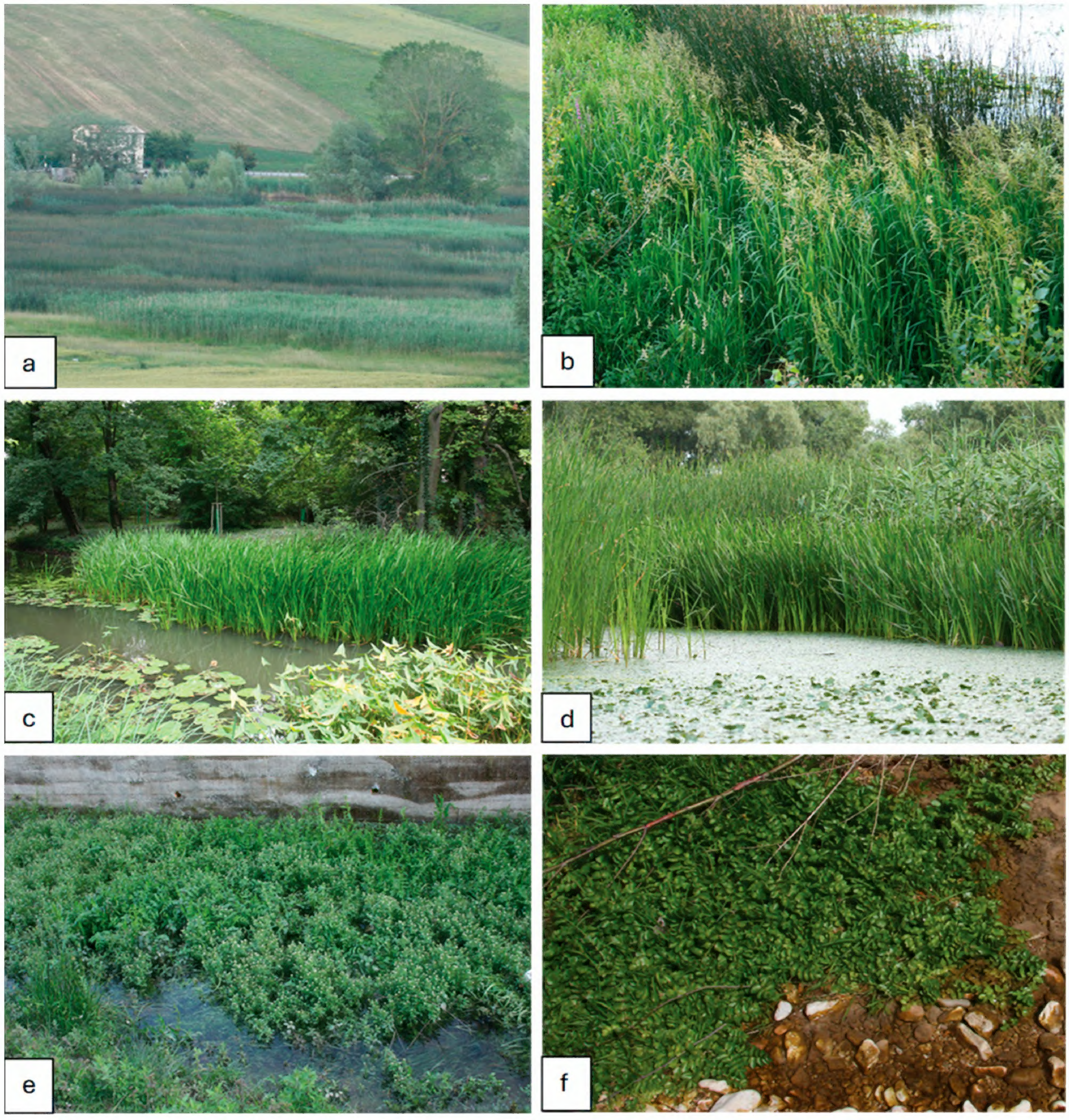

Figure 2. (a) Examples of emergent vegetation dominated by *Phragmites australis* (light green) and *Schoenoplectus lacustris* (dark green), and (b) stands of *Glyceria maxima* and *Schoenoplectus lacustris* at Colfiorito Marshland (Italy), which may be classified either as distinct associations—*Phragmitetum australis*, *Schoenoplectetum lacustris*, *Glycerietum maximae*—or collectively as a single association: *Scirpo-Phragmitetum*. (c) *Glycerio-Sparganietum neglecti* accompanied by a *Sagittaria sagittifolia*-dominated community, along a low-current channel at Včelínek, Lednice (Czech Republic). (d) The same association observed at Lake Tisza (Hungary), co-occurring with *Phragmitetum australis* and *Typhetum angustifoliae*. (e) Communities dominated by short emergent species, including *Helosciadium nodiflorum*, and (f) *Berula erecta*, assigned to the *Helosciadion nodiflori* alliance.

designate relevé 17 as the lectotype and, based on its species composition, request a binding decision to complete the name to *Typho angustifoliae-Scirpetum mucronati* Tallon 1950 according to Art. 40b. *Typha angustifolia* L. 1753 is the only species of *Typha* that occurs in all relevés of Tallon (1950), while the other species of *Typha* have a lower constancy.

Currently, the name-giving taxon *Scirpus mucronatus* L. 1753 is considered to belong to the genus *Schoenoplectiella* Lye, as *Schoenoplectiella mucronata* (L.) J. Jung et H. K. Choi, for instance, in POWO (2025) and Bartolucci et al. (2018). Therefore, we perform here the mutation of the name *Typho-Scirpetum mucronati* Tallon 1950 [Tallon 1950: the single table at the end of the publication] to

Typho-Schoenoplectielletum mucronatae Tallon 1950 mut. Landucci, Chytrý, Iemelianova, Šumberová et Theurillat nom. mut. nov.

Request (10) for a binding decision on the name-giving taxon of the name *Typho-Schoenoplectetum tabernaemontani* Braun-Blanquet et O. de Bolòs 1958

This association, described by Braun-Blanquet and Bolòs (1958: 81–83), is very similar to the *Scirpo-Phragmitetum* Koch 1926, but with *Schoenoplectus tabernaemontani* (C. C. Gmelin) Palla 1888 instead of *S. lacustris* (L.) Palla 1888. Both *Typha domingensis* Pers.1807 [= *T. angustifolia* L. subsp. *australis* (Schumach.) Kronf. 1889] and *T. latifolia* L. are present in the relevés of the original diagnosis. The authors described four variants, dominated by *Typha latifolia*, *T. angustifolia* subsp. *australis* (= *T. domingensis*), *Phragmites australis*, and *Schoenoplectus tabernaemontani*, respectively. This association was lectotypified by Molina (1996: 36), who indicated relevé 28 in table 14 in Braun-Blanquet and Bolòs (1958) as lectotype. In the same year, Bolòs (1996: 65) designated as lectotype for the same association relevé 13 of the same table. According to the dates appearing on the back covers of both publications, Molina (1996) was published in June and Bolòs (1996) in December. Therefore, the first lectotypification of Molina prevails. Considering that *Typha domingensis* is the only *Typha* species present in the type relevé and that it is also the second most frequent species in the table, we believe that completing the name *Typho-Schoenoplectetum tabernaemontani* Braun-Blanquet et O. de Bolòs 1958 with *Typha domingensis* is the most appropriate. However, the taxon used in the original diagnosis is at the subspecific rank (*T. angustifolia* subsp. *australis*) and using *T. domingensis* (specific rank) instead corresponds to a mutation (Art. 45). Therefore, we request a binding decision to complete the name to *Typho australis-Schoenoplectetum tabernaemontani* Braun-Blanquet et O. de Bolòs 1958, and in case the request would be accepted, we propose to mutate the name using the specific rank *T. domingensis* as this is the accepted rank in POWO (2025) and in Bartolucci et al. (2018).

Nomenclatural summary

***Phragmito australis-Magnocaricetea elatae* Klika in Klika et Novák 1941**
≡ *Phragmito communis-Magnocaricetales* Klika in Klika et Novák 1941 nom. inept. (Art. 44)
Holotypus: *Phragmitetalia* W. Koch 1926

***Phragmitetalia australis* W. Koch 1926 nom. corr.**
≡ *Phragmitetalia communis* W. Koch 1926 nom. inept. (Art. 44)
Lectotypus: *Phragmition australis* W. Koch 1926 nom. corr.

***Phragmition australis* W. Koch 1926 nom. corr. et typus cons. propos.**
≡ *Phragmition communis* W. Koch 1926 nom. inept. (Art. 44)
Lectotypus: *Scirpo-Phragmitetum* W. Koch 1926
Typus conservandum propositum: *Phragmitetum australis* Savich 1926 nom. corr.

***Phragmitetum australis* Savich 1926 nom. corr. et cons. propos.**
≡ *Phragmitetum communis* Savich 1926 nom. inept. (Art. 44)
Holotypus: Savich 1926a, p. 57; Drude scale (see below); locality: shores of the Lake Imandra, Guba bay, Kola Peninsula, RUS. *Phragmites australis* [sub *P. communis*] Cop3, *Carex lasiocarpa* Sp. *Carex vesicaria* Sp., *Equisetum fluviatile* [sub *E. limosum*] Sp, *Menyanthes trifoliata* Sol., *Triglochin maritima* Sol., *Scorpidium scorpioides* (unspecified cover).
Drude scale (cover): Soc = socialis (> 90%), Cop3 = copiosus 3 (70–90%), Cop2 = copiosus 2 (50–70%, Cop1 = copiosus 1 (30–50%), Sp = sparsus (10–30%), Sol = solitarius (< 10%), Un = unicum (a single individual).
= *Scirpo-Phragmitetum* W. Koch 1926
Holotypus: Koch (1926), single relevé, p. 47.

***Typho angustifoliae-Scirpetum mucronati* Tallon 1950**
≡ *Typho angustifoliae-Schoenoplectielletum mucronatae* Tallon 1950 mut. Landucci, Chytrý, Iemelianova, Šumberová et Theurillat nom. mut. nov. (Art. 40b, 45)
≡ *Typho-Scirpetum mucronati* Tallon 1950
Lectotypus hoc loco: Tallon 1950, separate, non-numbered table, rel. 17.

***Typho australis-Schoenoplectetum tabernaemontani* Braun-Blanquet et O. de Bolòs 1958**
≡ *Typho domingensis-Schoenoplectetum tabernaemontani* Braun-Blanquet et O. de Bolòs 1958 nom. mut. nov. Landucci, Chytrý, Iemelianova, Šumberová et Theurillat 2025 (Art. 45)
≡ *Typho-Schoenoplectetum tabernaemontani* Braun-Blanquet et O. de Bolòs 1958
Lectotypus: Braun-Blanquet et Bolòs 1958, p. 81–83, relevé 28, table 14.

***Oenanthetalia aquaticae* Hejný ex Landucci, Chytrý, Iemelianova, Šumberová et Theurillat ord. nov.**
Holotypus hoc loco: *Oenanthion aquaticae* Hejný ex Vicherek 1962 [Vicherek 1962: 13]
= *Oenanthetalia aquaticae* Hejný in Kopecký et Hejný 1965 nom. inval. (Art. 3f)
= *Oenanthetalia aquaticae* Hejný ex Balátová-Tuláčková, Mucina, Ellmauer et S. Wallnöfer 1993 nom. inval. (Art. 2b)

***Oenanthion aquaticae* Hejný ex Vicherek 1962**
Holotypus: *Oenantho aquaticae-Rorippetum amphibiae* Lohmeyer 1950
= *Eleocharito palustris-Sagittarion sagittifoliae* Passarge 1964 (Art. 2b)

= *Oenanthion aquaticae* Balátová-Tuláčková, Mucina, Ellmauer et S. Wallnöfer 1993 nom. inval. (Arts. 3o, 5)

***Oenantho aquaticae-Rorippetum amphibiae* Lohmeyer 1950**
Neotypus hoc loco: relevé n. 22568 (Turboveg number), German Vegetation Reference Database-GVRD from Elster-Luppe floodplain (Täglich 1956) – cover: in Braun-Blanquet; author: Täglich G.; locality: Elster-Luppe floodplain, Saxony, Leipzig, DE; date: 1955. *Rorippa amphibia* 3, *Oenanthe aquatica* 2, *Phragmites australis* 2, *Glyceria maxima* 1, *Glyceria fluitans* +, *Sium latifolium* +, *Veronica serpillifolia* +, *Calystegia sepium* +.

***Helosciadion nodiflori* Segal in Westhoff et Den Held 1969 mut. Landucci, Chytrý, Iemelianova, Šumberová et Theurillat nom. mut. nov.**
≡ *Apion nodiflori* Segal in Westhoff et Den Held 1969
Lectotypus hoc loco: *Scrophulario aquaticae-Apietum nodiflori* Maas ex Westhoff et Den Held 1969 [Westhoff and Den Held 1969: 132]

***Scrophulario auriculatae-Helosciadietum nodiflori* Maas ex Westhoff et Den Held 1969 mut. Landucci, Chytrý, Iemelianova, Šumberová et Theurillat nom. corr. et mut. nov.**
≡ *Scrophulario auriculatae-Apietum nodiflori* Maas ex Westhoff et Den Held 1969 nom. corr.
≡ *Scrophulario aquaticae-Apietum nodiflori* Maas ex Westhoff et Den Held 1969 nom. inept. (Art. 44)
≡ *Scrophulario aquaticae-Helosciadietum nodiflori* Maas 1959 nom. prov.
Neotypus hoc loco: relevé n. 734 (Turboveg number), Dutch Vegetation Database – area: 8 m^2; cover: Braun-Blanquet scale; author: V. Westhoff; locality: on a shallow ditch, in Mechelen (Limburg, NL); date: 1940. *Helosciadium nodiflorum* 4, *Persicaria lapathifolia* 1, *Nasturtium officinale* 1, *Stellaria alsine* 1, *Rumex conglomeratus* +, *Glyceria fluitans* +, *Dactylis glomerata* +, *Ranunculus acris* +, *Filipendula ulmaria* +, *Urtica dioica* +, *Phleum pratense* +, *Lolium perenne* +, *Ranunculus repens* +, *Scrophularia auriculata* +, *Epilobium parviflorum* +, *Taraxacum* sp. +, *Alliaria petiolata* +.

***Nasturtio-Glycerietalia* Pignatti 1953 nom. dub. propos. (Art. 38)**
Holotypus: *Glycerio-Sparganion* Braun-Blanquet et Sissingh in Boer 1942

***Glycerio-Sparganion* Braun-Blanquet et Sissingh in Boer 1942 nom. dub. propos. (Art. 38)**
Holotypus: *Glycerio-Sparganietum neglecti* W. Koch 1926

***Glycerio-Sparganietum neglecti* W. Koch 1926 nom. dub. propos. (Art. 37)**
Lectotypus: relevé 1, table V (Koch 1926: 52)

Data availability

The article does not contain original data. It is mainly based on literature sources available online in public repositories and academic libraries.

Author contributions

F.L. originated the concept for this paper and co-wrote the manuscript with J-P.T. All authors participated in the literature review, engaged in critical discussions, and contributed to the revision and refinement of the manuscript.

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